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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/728,022

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Gopal K. Chopra

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EXAMINER

MEHTA, PARIKHA S.

ART UNIT

PAPER NUMBER

3737

MAIL DATE

DELIVERY MODE

06/01/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/728,022

Applicant(s)

CHOPRA, GOPAL K.

Examiner

Parikha S. Mehta

Art Unit

3737

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 8-13, 21, 23 and 24 is/are pending in the application.
- 4a) Of the above claim(s) 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 9-13, 21, 23, 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 March 2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's amendments to the specification are sufficient to overcome the objections presented in the prior Office Action. Accordingly, the previous objections to the specification are withdrawn.

2. Applicant's amendments to the drawings are sufficient to overcome the objections presented in the prior Office Action. Accordingly, the previous objections to the drawings are withdrawn. However, Applicant's amendments have necessitated new objections to the drawings, the details of which are discussed below.

3. Applicant's arguments with respect to the previous rejection of claims 1-4, 9-13, 21, 23 and 24 under 35 U.S.C. 102 and 35 U.S.C. 103 have been considered but are moot in view of the new ground(s) of rejection, necessitated by Applicant's amendment filed 2 March 2007.

Drawings

4. The drawings are objected to because they are informal. Examiner recommends that Applicant replace handwritten portions with formal, typed drawings in order to overcome this objection. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-4, 9-13, 21 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Law et al (US Patent No. 5,762,066), hereinafter Law ('066). Law ('066) discloses an apparatus and method of using such for delivering HIFU (acoustic energy) to a target site, wherein the apparatus comprises a probe (catheter) and an attached transducer (col. 5 lines 10-15, col. 7 lines 20-24), a channel adjacent to the transducer adapted for carrying cooling fluid, a fluid reservoir (col. 6 lines 15-17, col. 7 lines 20-25), and an ultrasound imager (acoustic energy sensor) (Fig. 7, col. 13 lines 18-21). The pressurized circulation mechanism of Law ('066) (col. 7 lines 27-30) constitutes a heat exchanger as claimed in the instant application. Law ('066) discusses using the apparatus for treating the brain (col. 5 lines 35-37), and therefore the reference acoustic energy sensor also constitutes a neurological signal sensor as claimed in the instant application. Law ('066) additionally discloses analysis of the reflected acoustic signals to selectively target blood vessels.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Law ('066) in view of Thompson et al (US PG Pubs. No. 2002/0055693). Law ('066) teaches all features of the present invention as detailed above. Law ('066) is silent with respect to whether a blood thinning agent is delivered to the tissue region prior to delivering acoustic energy. In the same field of endeavor, Thompson ('693) teaches a method and apparatus for thrombolysis via ultrasonic therapy, the method

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including the step of delivering an anticoagulant such as heparin or aspirin to the treatment area prior to delivering acoustic energy (§ [0081], § [0085]). Examiner asserts that the anticoagulants disclosed by Thompson ('693) constitute blood thinning agents as claimed in the instant application. At the time of invention, it would have been obvious to one of ordinary skill in the art to modify the method of Law ('066) to further include the step of administering an anticoagulant prior to ultrasonic therapy, in order to provide enhanced blood perfusion and promote thrombolysis, in view of the teachings of Thompson ('693).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fujio et al (US Patent No. 5,873,828), Arndt et al (US PG Pubs. No. 2001/0020178), Oppelt et al (US Patent No. 5,624,382) and Buchholtz et al (US Patent No. 5,472,405) teach related methods and systems for ultrasonic catheters with treatment and sensing components, including means for cooling the periphery of the distal transducer. Oliver et al (US Patent No. 6,958,040) teach a related method and apparatus for an ultrasonic therapeutic and sensing catheter for blood vessel thrombolysis, the catheter including a lumen for cooling fluid and the method including the step of administering heparin prior to delivering ultrasonic therapy.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Parikha S. Mehta whose telephone number is 571.272.3248. The examiner can normally be reached on M-F, 8 - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571.272.4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Parikha S. Mehta

Examiner – Art Unit 3737


ELENI MANTIS MERCADER
SUPERVISORY PATENT EXAMINER